

WHAT IS CLAIMED:

1. An isolated *Thermotoga* delta prime subunit of a DNA polymerase III-type enzyme, the isolated delta prime subunit:
 - (i) comprising the amino acid sequence of SEQ ID NO: 148; or
 - (ii) being encoded by a nucleic acid molecule hybridizing to the complement of SEQ ID NO: 147 under hybridization conditions comprising at most about 0.9M sodium citrate buffer at a temperature of at least about 37°C.
2. The isolated *Thermotoga* delta prime subunit according to claim 1 wherein the *Thermotoga* species is *Thermotoga maritima*.
3. The isolated *Thermotoga* delta prime subunit according to claim 2 wherein the delta prime subunit comprises the amino acid sequence of SEQ ID NO: 148.
4. The isolated *Thermotoga* delta prime subunit according to claim 1 wherein the delta prime subunit is encoded by a nucleic acid molecule that hybridizes to the complement of SEQ ID NO: 147 under hybridization conditions comprising at most about 0.9M sodium citrate buffer at a temperature of at least about 51°C.
5. The isolated *Thermotoga* delta prime subunit according to claim 1 wherein the delta prime subunit is purified.
6. A clamp loader complex comprising the *Thermotoga* delta prime subunit according to claim 1.
7. A DNA polymerase III-type enzyme complex comprising the claim loader according to claim 6.
8. A kit comprising:
 - a container that contains therein either a deoxynucleoside triphosphate or a dideoxynucleoside triphosphate; and
 - a container that contains therein the DNA polymerase III-type enzyme complex according to claim 7.